San Diego Gas & Electric Company

SDG&E Grid Communication System

Abstract

San Diego Gas & Electric's (SDG&E) Grid Communication System (SGCS) project includes the installation of a fully integrated wireless communication system covering up to 90% of the utility's customers. The project aims to enhance reliability and reduce outage durations and operations and maintenance costs. The project implements two-way communications and applications to: (1) allow SDG&E to integrate new advanced metering infrastructure and distribution automation equipment, and (2) provide increased system visibility and identify the scope and location of outages.

At-A-Glance

Recipient: San Diego Gas & Electric Company

State: California

NERC Region: Western Electricity Coordinating Council

Total Budget: $59,427,645

Federal Share: $28,115,052

Project Type: Integrated and/or Crosscutting Systems

Equipment

- Distribution Automation Communications Network
- Synchrophasor Communications Network

Targeted Benefits

- Improved Electric Service Reliability and Power Quality
- Reduced Costs from Equipment Failures and Distribution Line Losses
- Reduced Service Costs for Customers
- Reduced Operating and Maintenance Costs

Smart Grid Features

Communications infrastructure includes a unified wireless radio frequency (RF) network that leverages multiple technologies and backhaul equipment. The project includes the procurement and licensing of dedicated RF spectrum from the Federal Communication Commission to ensure adequate coverage and functionality. Technologies and equipment are being evaluated in a pilot study at 20 sites, and the utility is selecting one system for full-scale deployment. Wireless carrier backhaul solutions provide the backbone for energy management programs and allow for the integration of synchrophasor technologies, distribution automation equipment, smart meters, smart appliances, and home area networks. This scalable infrastructure provides opportunities to add future service offerings and further optimize electricity delivery, system reliability, and customer participation.

Timeline

Key Milestones	Target Dates
Communications infrastructure field testing begins	Q3 2010
Communications infrastructure installation begins	Q1 2012
Communications infrastructure installation completed	Q1 2013

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